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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,057	12/03/2004	John Allen Hilton	50341-045	8755

20277 7590 03/16/2007  
MCDERMOTT WILL & EMERY LLP  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

EXAMINER
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BUDD, MARK OSBORNE

ART UNIT	PAPER NUMBER
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2834

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/517,057

Applicant(s)

HILTON, JOHN ALLEN

Examiner

Mark Budd

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 6, 8-15 and 19-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12-3-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 16 are rejected under 35 USC 102 (b) as being anticipated by Inoue.

Looking at figures 1 and 4-6 at the reference teaches a sheet-like main body #7 a mounting flange (everything radially outwards of the bend #8). The outer surface would be the surface that faces away from (not in contact with) the piezoelectric element. First and second mounting elements engaging the inner and outer surfaces to mount the resonator element #3, #4. A drive circuit at appropriate electrical connections are also provided. It is noted that claim 4 appears to be in error in stating that an electrical insulating bonding material is used, since claimed 5 clearly requires electrical contact between the piezoelectric element and the metal diaphragm. In the prior art very thin layers of insulating epoxy have been used. However, the dimension is so thin as to allow electrical contact (official notice taken).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 USC 103 (a) as being unpatentable over Inoue. Inoue, as described above, teaches the basic transducer structure but does not provide the specifically claimed dimensions. However, it has long been held that optimization of a

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known structure (for example through routine trial and error) for a particular specific application is with the skill expected of the routineer. Therefore, providing specific dimensions to optimize Inoue for a particular task would have been obvious to what ordinary skill in the art.

Claims 1-5, 7 and 16-18 are rejected under 35 USC 103 (a) as being unpatentable over Schafft in view of Inoue. In figure 6 Schafft teaches the transducer structure except to the mounting flange #37 is clamped in a single piece of a material. Making parts integral or separable has long been held to be within the skill expected at the routineer. Thus to provide the support means #36 as two parts rather than a single piece would have been obvious to what ordinary skill in the art. This is especially true in the current instance since Inoue explicitly teaches clamping the support flange between two separate members (#3, #4-figure 1 and #3b, #4b-figure 6). Regarding claim 7, as noted above, selection of specific dimensions would have been obvious to what ordinary skill in the art.

Claim 6, 8-15 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Further cited of interest are Guess, Roof, Strubbe, Ito and Park (figure 12).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Budd whose telephone number is 571-272-2019. The examiner can normally be reached on Monday-Thursday from 6 a.m. to 4 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darin Schuberg, can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mark Budd  
Primary Examiner  
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